



# Craftsman Circular Saw Power Cord Repair

Repairing a damaged power cord. This power cord had been mangled by the saw blade while I was too focused on making a precise cut. Here we showcase two different methods for reconnecting the cut copper wire strands.

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## INTRODUCTION

This is a common enough problem that I felt it warranted a repair guide- in addition, I wanted my trusted circular saw to get back into an operational condition. I didn't pay enough attention while working on a project and nicked the attached power cord. Needless to say, it never quite functioned the same after that- plus, the wiring would get super hot and occasionally arc! So it needed to be cut and re-spliced.

Keep in mind that this repair is working not only with a power tool, but also with a power cord that plugs into the wall. Be slow and careful with this repair to minimize the dangers involved.

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### TOOLS:

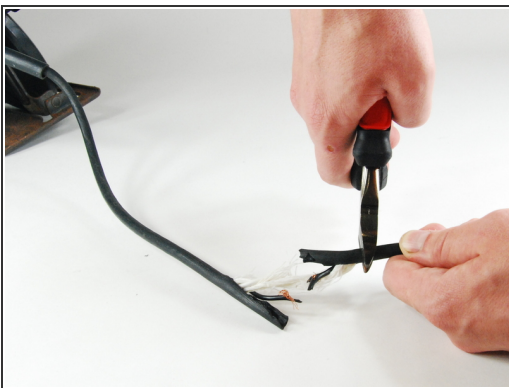
- [Wire Stripper](#) (1)
  - [Precision Utility Knife](#) (1)
  - [Heat Gun](#) (1)
  - [Heat-shrink tubing various diameters](#) (1)
  - [Solder](#) (1)
  - [Soldering Station](#) (1)
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## Step 1 — Craftsman Circular Saw Power Cord Repair



- There are three parts to the power cord on this circular saw.
  - There is the outer casing, that protects the wires from the normal wear and tear of the workshop.
  - There are the wires that carry the electricity.
  - There is some string. The string is there for added strength in the cord.
- In the close up view you can see that the black wire is cut completely through.

## Step 2




- To repair the cord, we need to remove the damaged portion.
- Trim the entire cord past the point where the outside casing is damaged.



### Step 3




- Carefully cut the outside casing back about an inch and a half to two inches.
- A hobby knife is a good choice for this step, but it is not the only option.

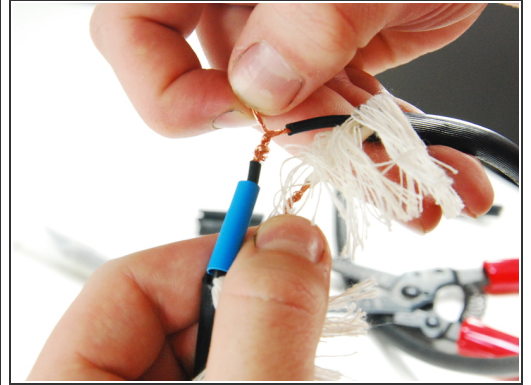
 Be very careful not to cut either of the electrical wires inside the cord, or yourself.

### Step 4



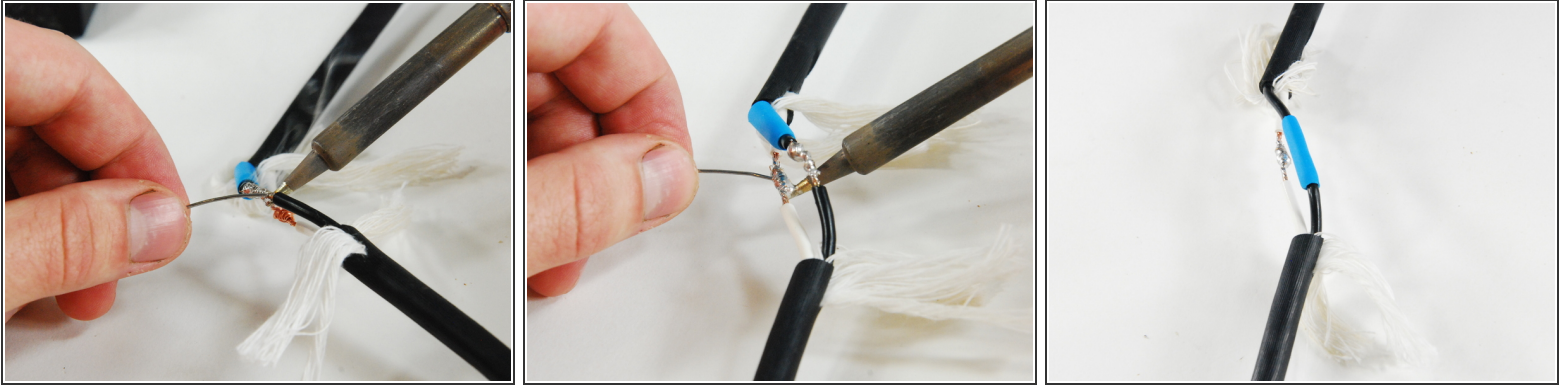
- Using wire strippers, strip a half an inch to three quarters of an inch of insulation off of each wire.
-  After you strip the insulation off of the wires, twist the end of the wire in between your fingers so that the strands don't fray apart.
- The amount of insulation you take off of each side doesn't have to exactly equal, but try to make it as close as possible.

## Step 5



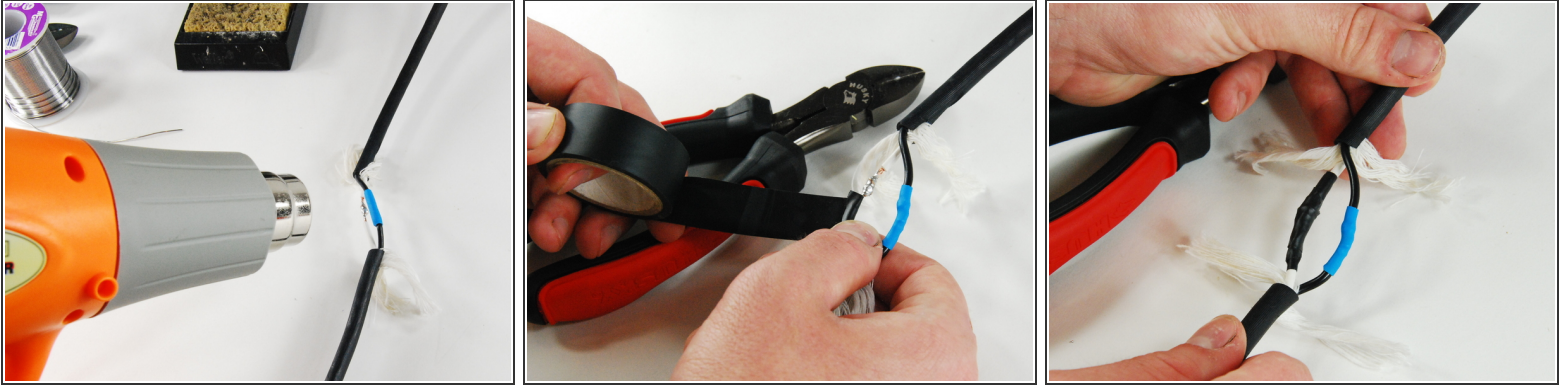
- Get your soldering tools ready. You need a soldering iron and solder.
- You also need some insulation. You can use either heat shrink tubing or electrical tape.
  - In this guide we used heat shrink for one wire and electrical tape for the other, to show how you would use each one.
- Splice the wires together by wrapping them around each other.
  - ⓘ Remember to put the heat shrink on the wire before you splice it to the other side.

## Step 6



- Solder the wires together.
    - Put a little bit of solder on the tip of the iron.
    - Hold the iron to the wire, and add the solder to the joint. When the wire gets hot enough, the solder will melt and suck itself into the wire.
    - Add enough solder and move the iron around enough to make the entire joint silver colored.
  - Once the wire is cool to the touch slide the heat shrink so it covers the joint.
- i** If you try to slide the heat shrink over the joint too quickly then the heat from soldering can cause the heat shrink to shrink down, making it difficult to slide it all the way over the joint.

## Step 7



- Use a heat gun to shrink the heat shrink over the joint.
- If you are using electrical tape, start a small loop around the joint.
  - It's hard to fit the entire roll of tape through the space between the wires, so pull off some tape then tear it off the roll.
- Wrap the entire joint in electrical tape. I always use a double layer, going up the joint one way, then back down to where I started.



## Step 8



- Wrap up the entire thing in electrical tape.
- If you have a really big section of heat shrink tubing that will fit over the entire joint you can use that as well.
- The string got cut at this point because there wasn't room to put it all back inside
- Again, wrap the wire with at least two layers.
- ☑ The better you wrap this the more durable your repair will be.

To reassemble your device, follow these instructions in reverse order.

This document was last generated on 2017-08-02 01:20:33 AM.